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United States
Department of
Agriculture

**Soil
Conservation
Service**

Spokane,
Washington

Washington Water Supply Outlook

MARCH 1, 1987

Foreword

How Forecasts Are Made

Most of the annual streamflow in the Western United States originates as snowfall. This snowfall accumulates high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are viewed in conjunction with snowpack data to prepare runoff forecasts. This report presents a comprehensive picture of water supply outlook conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data and narratives describing current conditions.

Streamflow forecasts are cooperatively generated by Soil Conservation Service and National Weather Service hydrologists. Forecasts become more accurate as more data affecting runoff becomes known. For this reason, forecasts are issued that reflect three future precipitation conditions — Below Normal, Average, and Above Normal. These forecasts are termed reasonable minimum, most probable, and reasonable maximum. Actual streamflow can be expected to fall between the lower and upper forecast values eight out of ten years.

Snowpack data are obtained by using a combination of manual and automated measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation, temperature, and other parameters are monitored on a daily basis and transmitted via radio telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

For More Information

Copies of Monthly Water Supply Outlook Reports and other reports may be obtained from the states listed below. Because of the limited space, snow survey measurements are not published in monthly reports. An annual snow survey data summary is published by the Soil Conservation Service for each of the western states. Historical snow survey data may be obtained at those same offices.

STATE	ADDRESS
Alaska	201 East 9th Ave., Suite 300, Anchorage, AK 99501-3687
Arizona	201 East Indianola, Suite 200, Phoenix, AZ 85012
Colorado	2490 West 26th Ave., Denver, CO 80211
New Mexico	517 Gold Ave. S.W., Room 3301, Albuquerque, NM 97102
Idaho	304 North 8th Street, Room 345, Boise, ID 83702
Montana	10 East Babcock, Room 443, Federal Building, Bozeman, MT 59715
Nevada	1201 Terminal Way, Room 219, Reno, NV 89502
Oregon	1220 Southwest 3rd Ave., Room 1640, Portland, OR 97208
Utah	4402 Federal Building, 125 South State Street, Salt Lake City, UT 84147
Washington	360 U.S. Court House, Spokane, WA 99201
Wyoming	Federal Building, 100 East "B" Street, Casper, WY 82601

In addition to state reports, a Water Supply Outlook for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 547, Portland, OR 97209.

Published by other agencies:

Water Supply Outlook Reports prepared by other agencies include: California — Snow Survey Branch, California Department of Water Resources, P.O. Box 388, Sacramento, CA 95802; British Columbia — The Ministry of Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia, V8V 1X5; Yukon Territory — Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory, Y1A 3V1; Alberta, Environment Technical Services Division, 9820 106th St., Edmonton, Alberta T5K 2J6.

Washington Water Supply Outlook

and

Federal — State — Private Cooperative Snow Surveys

Issued by

Wilson Scaling
Chief
Soil Conservation Service
Washington, D.C.

Released by

Lynn A. Brown
State Conservationist
Soil Conservation Service
Spokane, Washington

Prepared by

William F. Weller
Water Supply Specialist
Room 360 U.S. Courthouse
Spokane, Washington 99201

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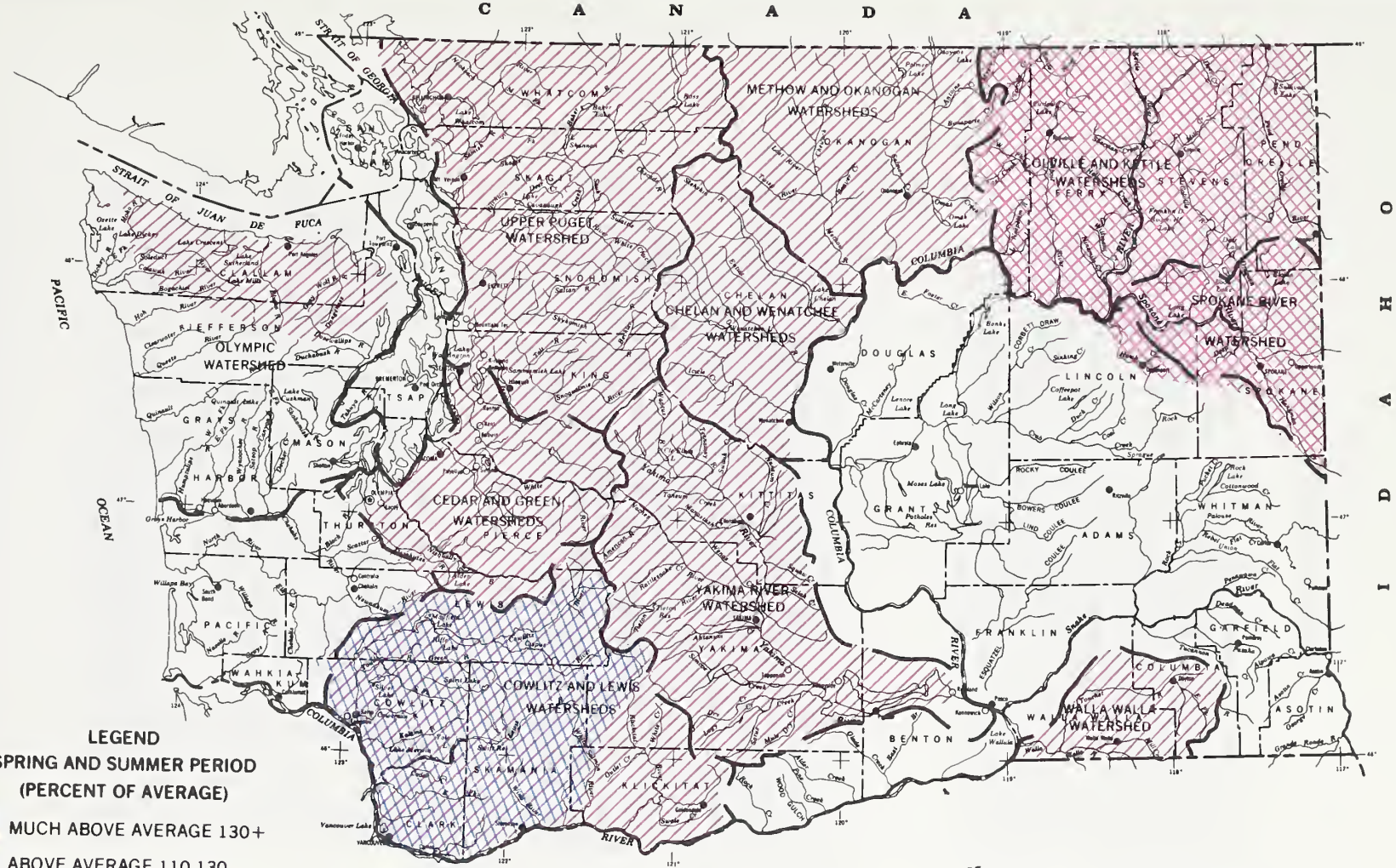
U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE



LEGEND

SPRING AND SUMMER PERIOD (PERCENT OF AVERAGE)

- MUCH ABOVE AVERAGE 130+
- ABOVE AVERAGE 110-130
- NEAR AVERAGE 90-110
- BELOW AVERAGE 70-90
- MUCH BELOW AVERAGE 70+ LESS
- NOT FORECAST
- WATERSHED BOUNDARY

SOURCE: Data compiled by SCS Field Personnel.

MARCH 1, 1987

STREAMFLOW PROSPECTS WASHINGTON

0 25 50 75 100 MI

0 50 100 150 KM

JANUARY 1986 4-R-39641

BASE 4-R-39260

GENERAL OUTLOOK

SUMMARY:

Reservoir storage remains below normal at the major irrigation projects throughout the state. Marchs Washingon water supply forecasts indicate below normal runoff for 1987 in Eastern Washington. Western Washington and the east side of the Cascade mountains will be near normal for the summer months. Snow cover and precipitation continue to be below average. February streamflows were below average except in south west Washington.
Note: This issue contains water conservation ideas for irrigators on page 26.

SNOWPACK:

Eastern Washington continues to be much below average with the Spokane Basin at 68% of normal down from 69% last month, and the Kettle River at 66% of average. The eastern slopes of the Cascade mountains remain much the same as last month with the Wenatchee Basin at 86%,and the Chelan Basin at 91%. The Yakima Basin at 81% of average is down from last months 90%. Along the west slopes of the Cascades the Lewis and Cowlitz Basin is at 82% and the Skagit and Olympic at 85% of normal.

PRECIPITATION:

Precipitation data from the National Weather Service (NWS) show February with much below average in the Spokane Basin at 61% and the Pend Oreille Basin 55%. February precipitation for the west side basins include the Cowlitz at 73% and the Olympic Peninsula at 69% of normal. The Walla Walla Basin with 101% of average water year to date precipitation is the only area above normal for the entire state. Other areas varies from 88% for the Cowlitz Basin to 53% for the Colville. February precipitation values from SNOTEL sites indicate a water year value near 82% of average for the high mountain areas of Washington.

RESERVOIRS:

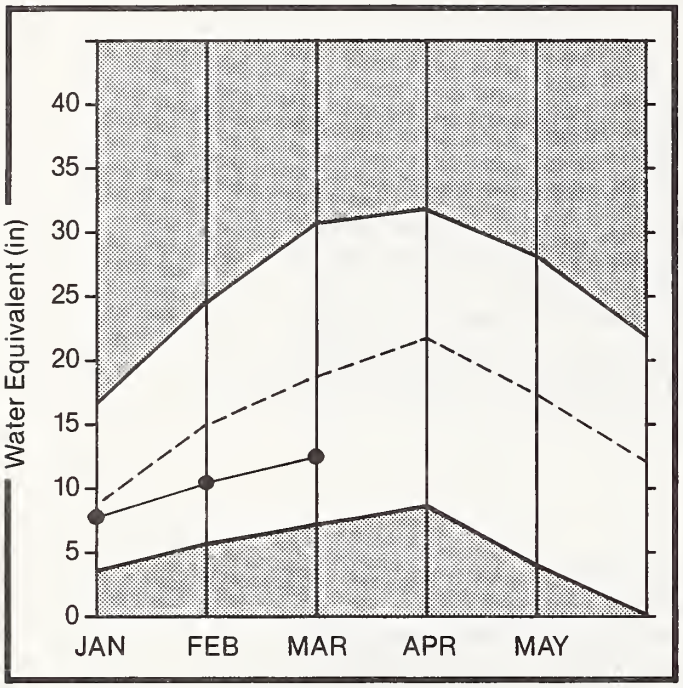
The Yakima Basin with storage as of March 1 of 391,400 acre feet is at 56% of average, down from 62% last month. Other major irrigation reservoir storage remains good in Washington for March 1, with Roosevelt at 165% of normal, Banks Lake at 109% and the Okanogan at 101% of average. The power reservoirs continue to suffer from low flows of last fall and winter with Coeur d' Alene at 42% of capacity, Chelan Lake at 35% of capacity and and Ross Lake at 50% of capacity .

STREAMFLOW:

February streamflows continued the summer and fall trend of below normal with only the Chehalis River at 117% being above average. Other February streamflows are: Spokane at Long Lake 54% (not corrected for upstream storage), Pend Oreille River 56%, Columbia River at Grand Coulee 60%, Chelan 59%, Skagit 78%, and the Walla Walla River 73%. Forecasts for streamflows for the western portion of Washington state remain almost the same as last month, which is below normal. Eastern Washington is in the worst condition with the Spokane and Pend Oreille being much below normal. Forecasts vary from 58% in the Spokane River to 96% in the Cowlitz River.

SPOKANE

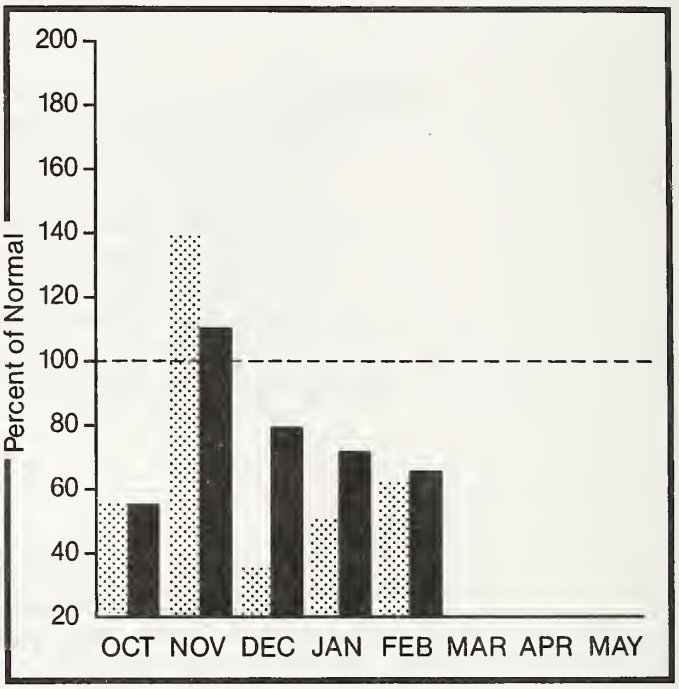
Mountain snowpack* (inches)



*Based on selected stations

Maximum
Minimum
Average
Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation
Year to date precipitation

SPOKANE RIVER BASIN

WATER SUPPLY OUTLOOK:

Storage in Coeur d' Alene Lake was 123,200 acre feet compared to 125,400 last year; average storage in Cd'A for March 1 is 220,900 acre feet. February streamflow on the Spokane River continued below average at 54% at Long Lake, uncorrected for change of storage in Coeur d' Alene Lake. Forecasted spring and summer runoff is 58% of normal. This forecast is based upon a snowpack that is 68% of average and a water year to date precipitation value of 65% of normal, down from 71% for last month. Data for snow cover was obtained from 9 SNOTEL and manual snow courses. Maximun measured snowpack occurred at the Lost Lake snow course with 97 inches of snow and 33.1 inches of water content. Temperatures for Spokane for February were 3 degrees above normal.

For more information contact your local Soil Conservation Service office.

SPOKANE RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
SPOKANE at Post Falls	APR-SEP	2820.0	1650.0	59	2693.0	95	607.0	22
	APR-JUL	2723.0	1590.0	58	2598.0	95	582.0	21
SPOKANE at Long Lake	APR-JUL	3045.0	1770.0	58	2897.0	95	643.0	21

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
COEUR D'ALENE	291.2	123.2	125.4	220.9

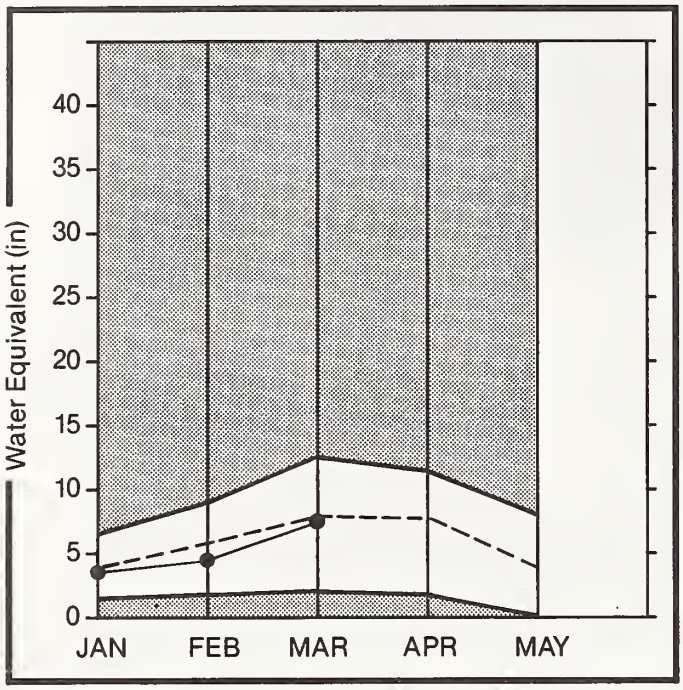
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	THIS YEAR AS % OF AVERAGE
Spokane River	19	89	69

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
2 - Corrected for upstream diversions or changes in reservoir storage.
The average is computed for the 1961-85 base period.

COLVILLE AND PEND OREILLE

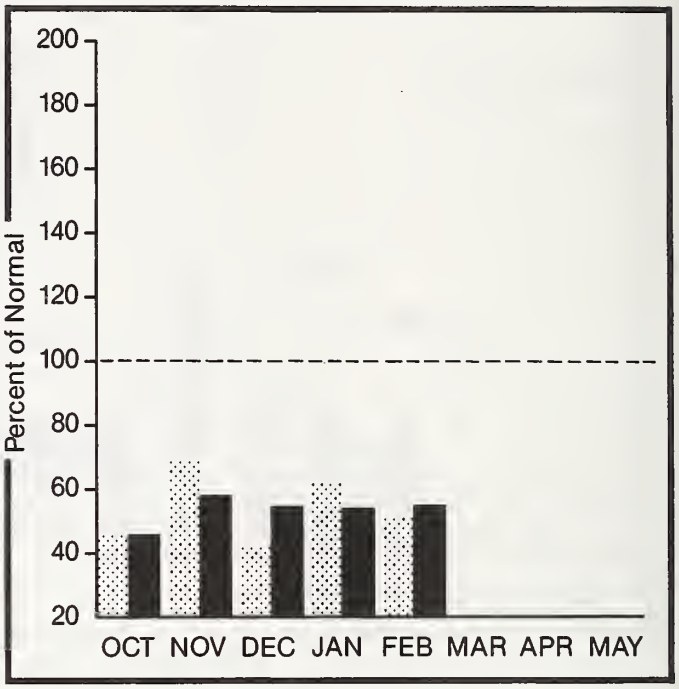
Mountain snowpack* (inches)



*Based on selected stations

Maximum
Minimum
Average
Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation
Year to date precipitation

COLVILLE - PEND OREILLE RIVER BASINS

WATER SUPPLY OUTLOOK:

Streamflows for the Pend Oreille River is forecasted to be 70%, Kettle River 69%, down from 80% last month, and the Colville River 69% of normal for the spring and summer runoff period. Streamflows for February were 56% of average on the Pend Oreille River, 72% on the Kettle River and 60% on the Columbia River below Grand Coulee. Pend Oreille River snowpack measurements are at 75% of normal based on nine snow course measurements. Basin-wide the snow cover is at 72% of average. Maximum snowpack measurement for the basin was at Schweitzer Ridge with 90 inches of snow and 36.7 inches of water. Precipitation during February was 55% of average bringing the water year to date to 53% of normal.

For more information contact your local Soil Conservation Service office.

COLVILLE - PEND OREILLE RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
PEND OREILLE RIVER bl Box Canyon 2	APR-SEP	15170.0	10600.0	70	13482.0	89	7718.0	51
	APR-JUL	13900.0	9710.0	70	12351.0	89	7069.0	51
	APR-JUN	11960.0	8370.0	70	10642.0	89	6098.0	51
CHAMOKANE CREEK	MAY-AUG	9.2	5.7	62	10.0	109	1.0	11
COLVILLE RIVER at Kettle Falls	APR-SEP	139.0	96.0	69	164.0	118	28.0	20
	APR-JUL	128.0	88.0	69	151.0	118	25.0	20
	APR-JUN	118.0	83.0	70	141.0	119	25.0	21
KETTLE RIVER nr Laurier	APR-SEP	1907.0	1320.0	69	1930.0	101	710.0	37
	APR-JUL	1807.0	1250.0	69	1828.0	101	672.0	37
	APR-JUN	1622.0	1120.0	69	1639.0	101	601.0	37
COLUMBIA RIVER at Birchbank 2	APR-SEP	44390.0	36900.0	83	43113.0	97	30687.0	69
	APR-JUL	35440.0	29500.0	83	34462.0	97	24538.0	69
	APR-JUN	25650.0	21290.0	83	24881.0	97	17699.0	69
COLUMBIA RIVER at Grand Coulee 2	APR-SEP	66460.0	51300.0	77	61268.0	92	41333.0	62
	APR-JUL	55730.0	43100.0	77	51460.0	92	34741.0	62
	APR-JUN	43420.0	33430.0	77	39943.0	92	26917.0	62

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY 1	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
ROOSEVELT	5232.0	4550.9	4860.7	2763.0
BANKS	715.0	658.7	741.4	606.0

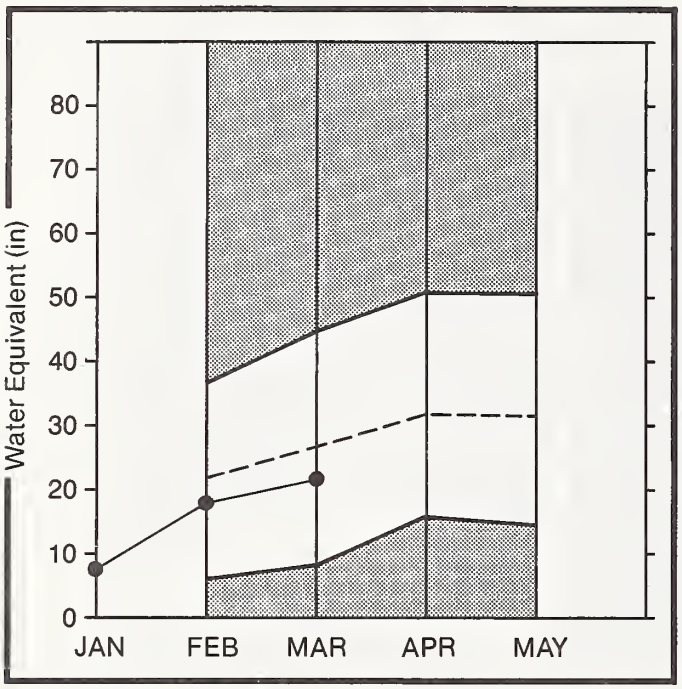
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	THIS YEAR AS % OF AVERAGE
Colville River	3	94	83
Pend Oreille River	12	92	74
Kettle River	9	84	71

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
2 - Corrected for upstream diversions or changes in reservoir storage.
The average is computed for the 1961-85 base period.

OKANOGAN AND METHOW

Mountain snowpack* (inches)



*Based on selected stations

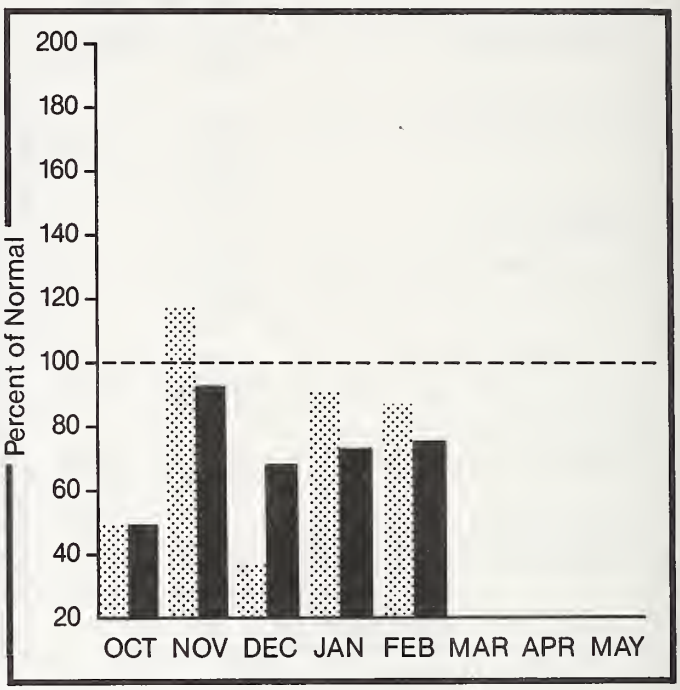
Maximum

Minimum

Average

Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation

Year to date precipitation

OKANOGAN - METHOW RIVER BASINS

WATER SUPPLY OUTLOOK:

Temperatures for February were 5 degrees above normal, bringing about an early melt of the low elevation snow. Spring and summer forecasts on the Okanogan River are for runoff of 76% of normal, 76% on the Methow River and 76% on the Similkameen River. Okanogan River streamflow was at 68% of average for February. Snow cover as of February 1 is 78% on the Okanogan, based upon data from 33 snow course measurements. Snow cover is 76% on the Methow. February precipitation in the Okanogan was at 86% with water year to date 75% of average. Storage in the Conconully Reservoirs is at 14,200 acre feet which is 60% of capacity and 101% of March 1 average.

For more information contact your local Soil Conservation Service office.

OKANOGAN - METHOW RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
SIMILKAMEEN R. nr Nighthawk	APR-SEP	1432.0	1080.0	75	1467.0	102	693.0	48
	APR-JUL	1333.0	1010.0	76	1370.0	103	650.0	49
	APR-JUN	1128.0	875.0	78	1180.0	105	570.0	51
OKANOGAN R. nr Tonasket	APR-SEP	1661.0	1260.0	76	1875.0	113	645.0	39
	APR-JUL	1501.0	1140.0	76	1695.0	113	585.0	39
	APR-JUN	1255.0	975.0	78	1439.0	115	511.0	41
METHOW RIVER nr Pateros	APR-SEP	980.0	740.0	76	1063.0	108	417.0	43
	APR-JUL	907.0	685.0	76	984.0	108	386.0	43
	APR-JUN	769.0	595.0	77	849.0	110	341.0	44

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
CONCONULLY LAKE (SALMON)	10.5	8.0	8.0	8.0
CONCONULLY RESERVOIR	13.0	6.2	6.5	6.0

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	THIS YEAR AS % OF AVERAGE
Okanogan River	28	94	77
Methow River	4	107	76

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
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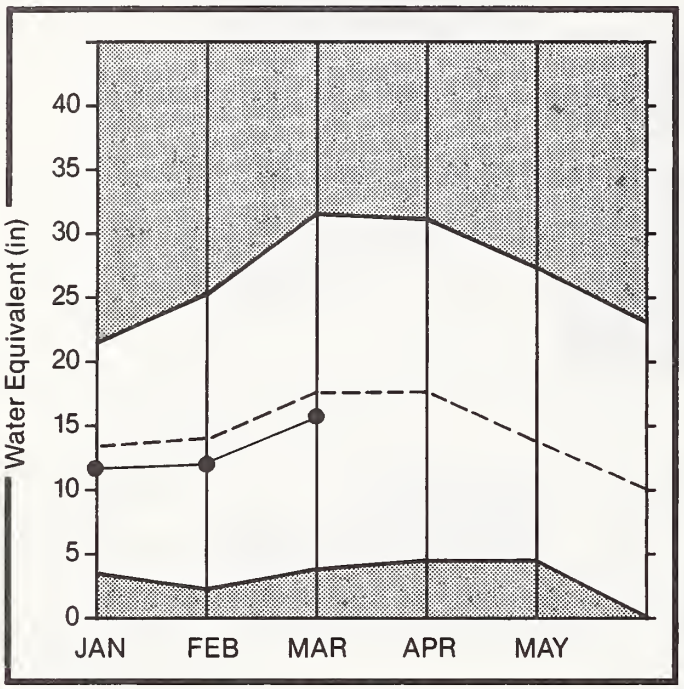
The average is computed for the 1961-85 base period.

WENATCHEE AND CHELAN

Mountain snowpack* (inches)



*Based on selected stations

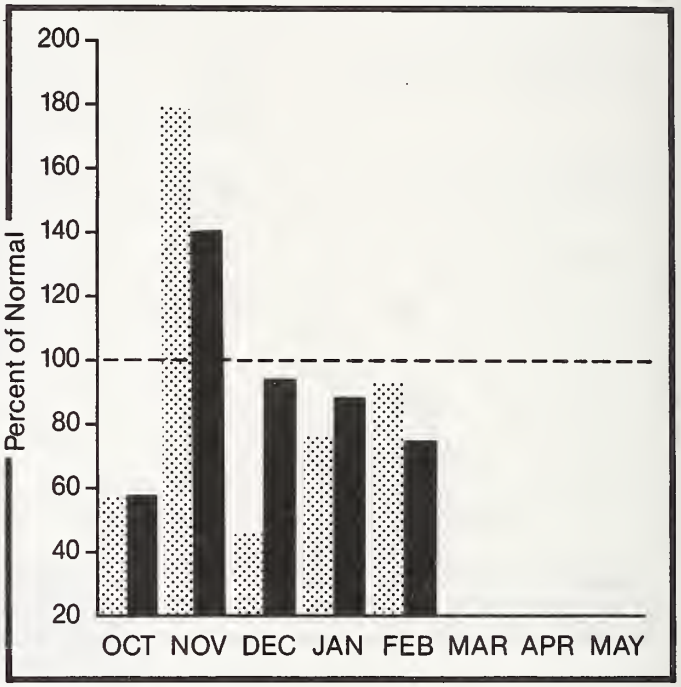
Maximum

Minimum

Average

Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation

Year to date precipitation

WENATCHEE - CHELAN RIVER BASINS

WATER SUPPLY OUTLOOK:

Reservoir storage in Lake Chelan is at 165,900 acre feet or 99% of normal for March 1 and 25% of capacity. February streamflows were 59% of average for the Chelan River and 44% on the Wenatchee River. Snowpack in the Wenatchee Basin is at 86% of normal, while the Chelan is at 91% and the Entiat at 102%. Spring and summer runoff for the Wenatchee is forecast to be 85% of normal, down from the 87% from last month, and 84% in the Chelan Basin. Stehekin River runoff is forecast to be 83% of average. Stemilt and Icicle are forecast at 85%. February precipitation was 84% of normal in the basin and 87% for the water year to date.

For more information contact your local Soil Conservation Service office.

WENATCHEE - CHELAN RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
CHELAN RIVER at Chelan 1	APR-SEP	1184.0	1000.0	84	1225.0	103	775.0	65
	APR-JUL	1040.0	875.0	84	1073.0	103	677.0	65
	APR-JUN	815.0	695.0	85	850.0	104	540.0	66
STEHEKIN R. at Stehekin	APR-SEP	844.0	700.0	83	810.0	96	590.0	70
	APR-JUL	714.0	590.0	83	683.0	96	497.0	70
	APR-JUN	541.0	460.0	85	530.0	98	390.0	72
ENTIAT RIVER nr Ardenvoir	APR-SEP	233.0	200.0	86	247.0	106	153.0	66
	APR-JUL	221.0	190.0	86	234.0	106	146.0	66
	APR-JUN	171.0	150.0	88	184.0	108	116.0	68
WENATCHEE RIVER at Plain	APR-SEP	1270.0	1080.0	85	1486.0	117	674.0	53
	APR-JUL	1113.0	950.0	85	1306.0	117	594.0	53
	APR-JUN	899.0	765.0	85	1053.0	117	477.0	53
STEMILT nr Wenatchee (miners in)	MAY-SEP	138.0	117.0	85	161.0	117	73.0	53
ICICLE CREEK nr Leavenworth	APR-SEP	370.0	319.0	86	437.0	118	201.0	54
	APR-JUL	340.0	295.0	87	404.0	119	186.0	55
	APR-JUN	270.0	235.0	87	321.0	119	149.0	55
COLUMBIA R. bl Rock Island Dam 2	APR-SEP	72250.0	56400.0	78	67960.0	94	44840.0	62
	APR-JUL	61050.0	47800.0	78	57568.0	94	38032.0	62
	APR-JUN	47730.0	37230.0	78	44867.0	94	29593.0	62

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
CHELAN LAKE	676.1	165.9	238.4	168.1

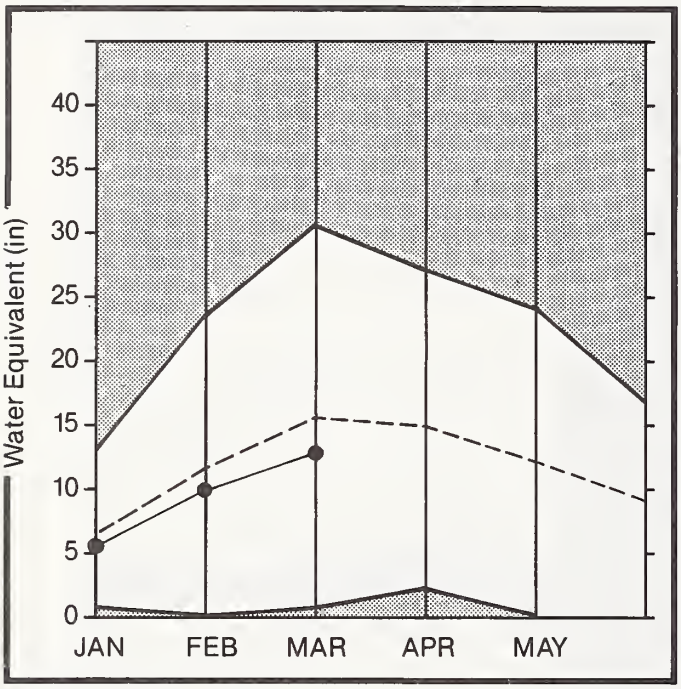
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
Chelan Lake Basin	6	103	92
Entiat River	2	94	99
Wenatchee River	7	107	90
Colockum Creek	1	103	67
Squilchuck Creek	1	72	83
Stemilt Creek	2	73	79

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
2 - Corrected for upstream diversions or changes in reservoir storage.
The average is computed for the 1961-85 base period.

YAKIMA

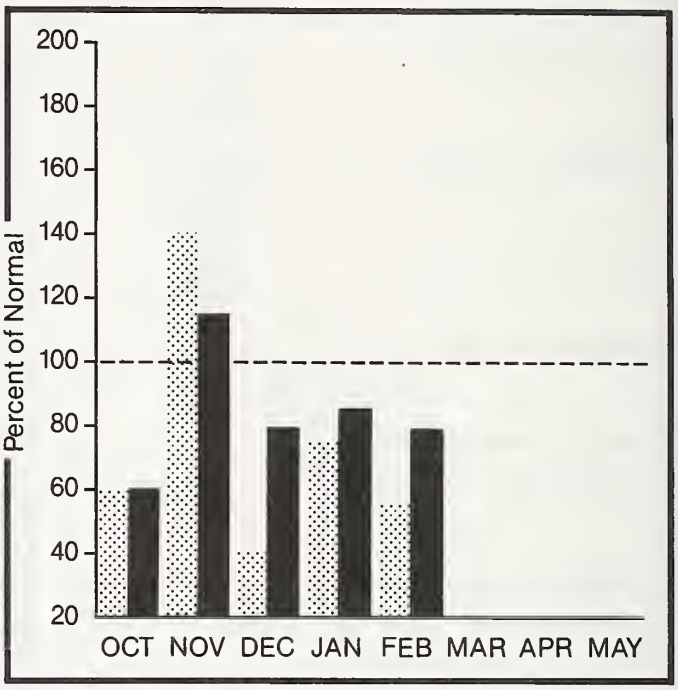
Mountain snowpack* (inches)



*Based on selected stations

Maximum
Minimum
Average
Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation
Year to date precipitation

YAKIMA RIVER BASIN

WATER SUPPLY OUTLOOK:

Reservoir storage is much below average with March 1 values for the five major reservoirs at 389,000 acre feet or 56% of normal. The Bureau of Reclamation reports that this is the lowest March 1 storage since 1933. Forecasts for the Yakima Basin call for runoff 83% of normal. These vary throughout the basin as follows: the Yakima River at Cle Elum 84%, Naches River 82%, the Yakima River at Parker 83% and Ahtanum Creek 81%. Snowpack is 83% of average in the Yakima Basin based upon measurements at 19 snow courses, last month's was 90% of normal. February precipitation was 53% of normal and 78% for the water year to date. January temperatures were one degree above average.

For more information contact your local Soil Conservation Service office.

YAKIMA RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
YAKIMA RIVER at Martin 1	APR-SEP	136.0	113.0	83	128.0	94	98.0	72
	APR-JUL	126.0	105.0	83	119.0	94	91.0	72
	APR-JUN	112.0	93.0	83	105.0	94	81.0	72
YAKIMA RIVER at Cle Elum 2	APR-SEP	951.0	800.0	84	905.0	95	695.0	73
	APR-JUL	846.0	710.0	84	803.0	95	617.0	73
	APR-JUN	735.0	620.0	84	701.0	95	539.0	73
YAKIMA RIVER nr Parker 2	APR-SEP	2075.0	1720.0	83	2156.0	104	1284.0	62
	APR-JUL	1862.0	1540.0	83	1931.0	104	1149.0	62
	APR-JUN	1643.0	1380.0	84	1725.0	105	1035.0	63
KACHESS RIVER nr Easton 1	APR-SEP	133.0	113.0	85	132.0	99	94.0	71
	APR-JUL	114.0	97.0	85	113.0	99	81.0	71
	APR-JUN	102.0	87.0	85	101.0	99	73.0	72
CLE ELUM RIVER nr Roslyn 1	APR-SEP	459.0	390.0	85	445.0	97	335.0	73
	APR-JUL	417.0	355.0	85	405.0	97	305.0	73
	APR-JUN	353.0	300.0	85	342.0	97	258.0	73
BUMPING RIVER nr Nile 1	APR-SEP	139.0	115.0	83	146.0	105	84.0	60
	APR-JUL	128.0	106.0	83	134.0	105	78.0	61
	APR-JUN	106.0	88.0	83	111.0	105	65.0	61
AMERICAN RIVER nr Nile	APR-SEP	121.0	100.0	83	125.0	103	75.0	62
	APR-JUL	112.0	94.0	84	118.0	105	70.0	63
	APR-JUN	94.0	79.0	84	99.0	105	59.0	63
TIETON RIVER at Tieton 1	APR-SEP	244.0	200.0	82	256.0	105	144.0	59
	APR-JUL	208.0	170.0	82	218.0	105	122.0	59
	APR-JUN	168.0	138.0	82	177.0	105	99.0	59
NACHES RIVER nr Naches 2	APR-SEP	860.0	700.0	81	898.0	104	502.0	58
	APR-JUL	779.0	630.0	81	809.0	104	451.0	58
	APR-JUN	667.0	540.0	81	693.0	104	387.0	58
AHTANUM CREEK nr Tampico 2	APR-SEP	47.0	38.0	81	56.0	119	20.0	43
	APR-JUL	43.0	35.0	81	51.0	119	19.0	44
	APR-JUN	37.0	30.0	81	44.0	119	16.0	43

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
KEECHELUS	157.8	69.0	81.9	105.0
KACHESS	239.0	71.8	128.6	179.0
CLE ELEM	436.9	114.2	173.7	273.0
BUMPING LAKE	33.7	13.9	17.2	10.0
RIMROCK	198.0	120.1	153.8	130.0

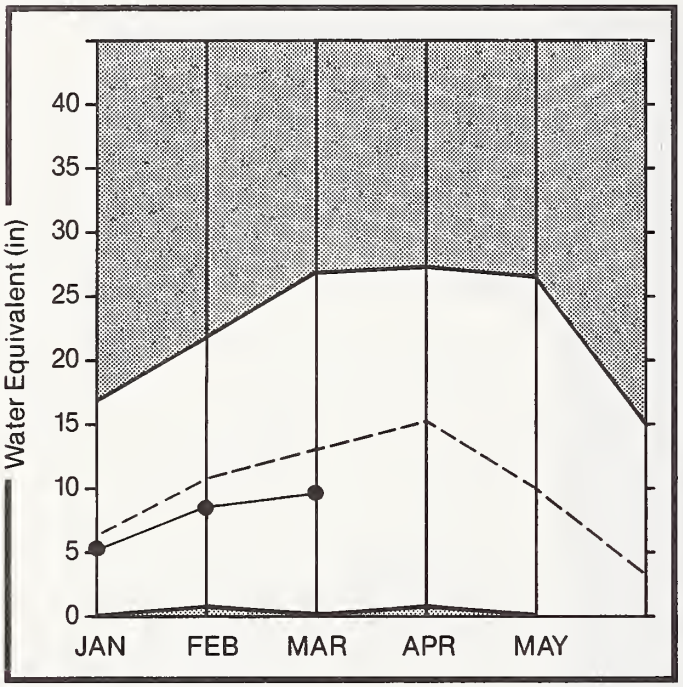
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
Yakima River	16	100	83
Ahtanum Creek	2	94	97

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
2 - Corrected for upstream diversions or changes in reservoir storage.
The average is computed for the 1961-85 base period.

WALLA WALLA

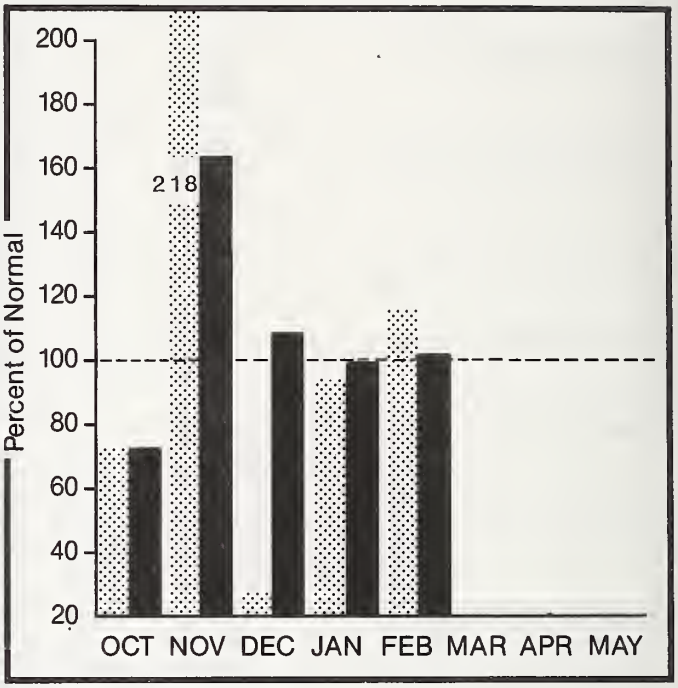
Mountain snowpack* (inches)



*Based on selected stations

Maximum
Minimum
Average
Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation

Year to date precipitation

WALLA WALLA RIVER BASIN

WATER SUPPLY OUTLOOK:

February precipitation was 116% of average and the water year to date precipitation has been 101% of normal. Streamflow in the Walla Walla Basin is Forecast 89% of average for the coming spring and summer. Snowpack in the Walla Walla River Basin is 73% of normal, based upon two snow courses. Streamflow for February in the Walla Walla River was 73% of normal. February temperatures were average.

For more information contact your local Soil Conservation Service office.

WALLA WALLA RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
MILL CREEK at Walla Walla	APR-SEP	17.5	15.6	89	21.0	120	11.0	63
	APR-JUL	17.3	15.4	89	20.0	115	10.0	58
	APR-JUN	17.2	15.3	89	20.0	117	10.0	58
SF WALLA WALLA nr MiltonFreewater	APR-JUL	55.0	48.0	87	59.0	107	37.0	67
COUSE CK nr Milton Freewater	APR-JUL	3.6	3.1	86	4.0	111	2.0	56
PINE CREEK nr Weston	APR-JUL	2.7	2.3	85	3.0	111	1.0	37
COLUMBIA R. at The Dalles 2	APR-SEP	101800.0	74100.0	73	92424.0	91	63500.0	62
	APR-JUL	87100.0	63500.0	73	79180.0	91	47820.0	55
	APR-JUN	70470.0	51440.0	73	64125.0	91	38755.0	55

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.

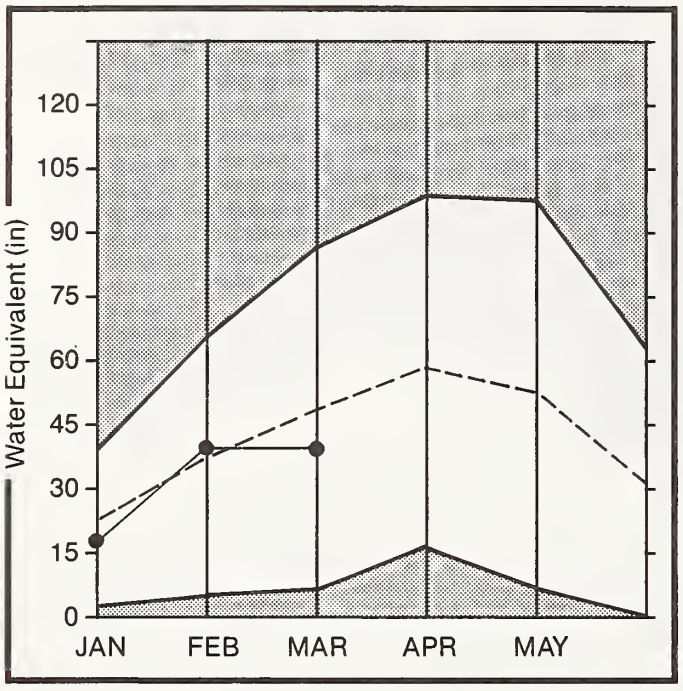
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
Mill Creek	1	116	73

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
2 - Corrected for upstream diversions or changes in reservoir storage.
The average is computed for the 1961-85 base period.

COWLITZ AND LEWIS

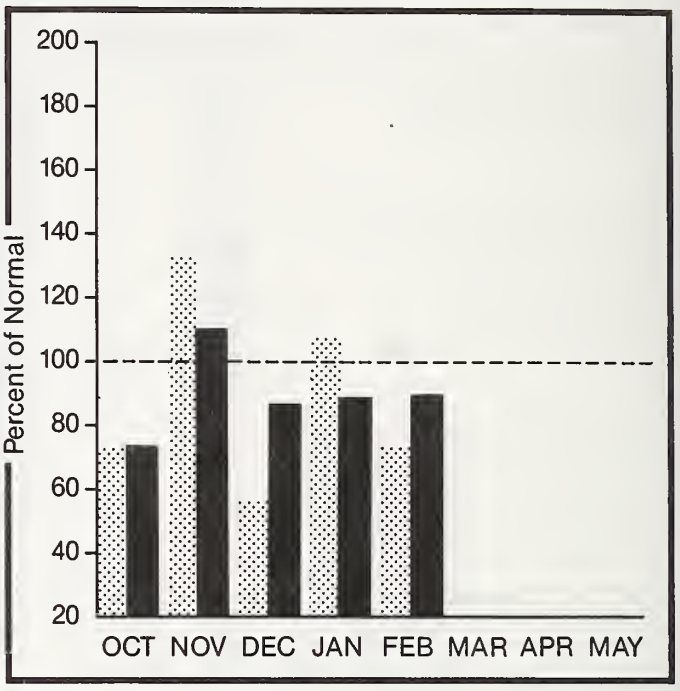
Mountain snowpack* (inches)



*Based on selected stations

Maximum
Minimum
Average
Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation
Year to date precipitation

COWLITZ - LEWIS RIVER BASINS

WATER SUPPLY OUTLOOK:

March 1 snow cover for the Cowlitz-Lewis Basin is at 82% of normal, based upon measurements at 14 snow courses. Maximum water content was noted at the Plains of Abraham SNOTEL site where the snowpack contained 61.5 inches of water on March 1 (data may be affected by drifting). February precipitation was 73% of normal bringing the water year to date precipitation to 88% of average. Streamflow is forecasted to be near normal for the coming water year. Forecasts for the Lewis River is 95% and for the Cowlitz River 96%. February streamflow in the Cowlitz River was 100% of normal.

For more information contact your local Soil Conservation Service office.

COWLITZ - LEWIS RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
LEWIS RIVER at Ariel 2	APR-SEP	1244.0	1180.0	95	1553.0	125	807.0	65
	APR-JUL	1084.0	1030.0	95	1355.0	125	705.0	65
	APR-JUN	958.0	910.0	95	1197.0	125	623.0	65
COWLITZ R. bl Mayfield Dam 2	APR-SEP	2036.0	1950.0	96	2663.0	131	1237.0	61
	APR-JUL	1782.0	1710.0	96	2334.0	131	1086.0	61
	APR-JUN	1524.0	1460.0	96	1993.0	131	927.0	61
COWLITZ R. at Castle Rock 2	APR-SEP	2687.0	2580.0	96	3520.0	131	1640.0	61
	APR-JUL	2343.0	2250.0	96	3070.0	131	1430.0	61
	APR-JUN	2015.0	1930.0	96	2635.0	131	1225.0	61

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.

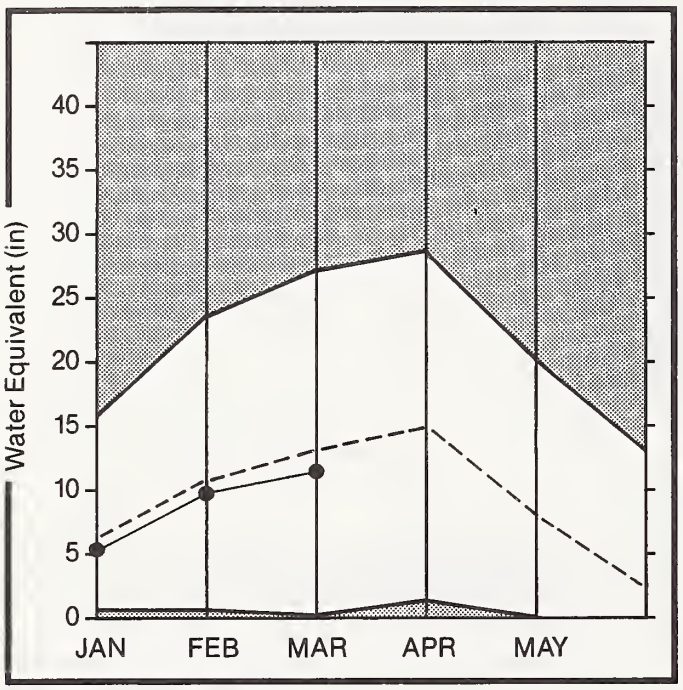
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
Cowlitz River	2	106	82
Lewis River	4	122	106

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
2 - Corrected for upstream diversions or changes in reservoir storage.
The average is computed for the 1961-85 base period.

WHITE - GREEN

Mountain snowpack* (inches)



*Based on selected stations

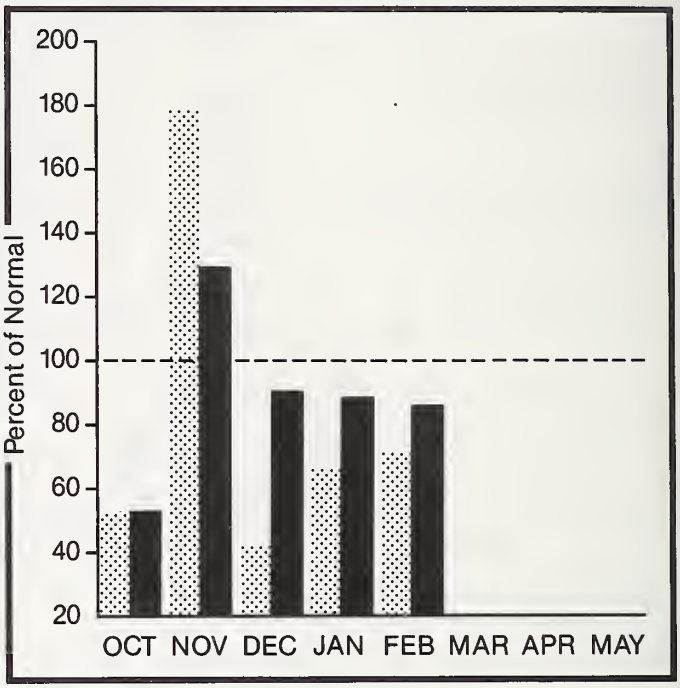
Maximum

Minimum

Average

Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation

Year to date precipitation

WHITE - GREEN RIVER BASINS

WATER SUPPLY OUTLOOK:

February precipitation was 70% of normal bringing the water year to date to 85% of average. Snowpack is 77% of normal for the basin. February runoff was near 60% of average. Summer runoff is forecasted to be 89% of normal on the Green River and 90% on the Cedar River. Water content at the Cayuse Pass snow course was 56.7 inches of water content on March 1. Temperatures for February averaged three degrees above normal resulting in a melt of the low elevation snow.

For more information contact your local Soil Conservation Service office.

WHITE - GREEN RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
GREEN RIVER bl Howard Hanson Dam 2	APR-SEP	291.0	260.0	89	333.0	114	187.0	64
	APR-JUL	261.0	230.0	88	295.0	113	165.0	63
	APR-JUN	236.0	210.0	89	269.0	114	151.0	64
CEDAR RIVER nr Cedar Falls	APR-SEP	93.0	84.0	90	107.0	115	61.0	66

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.

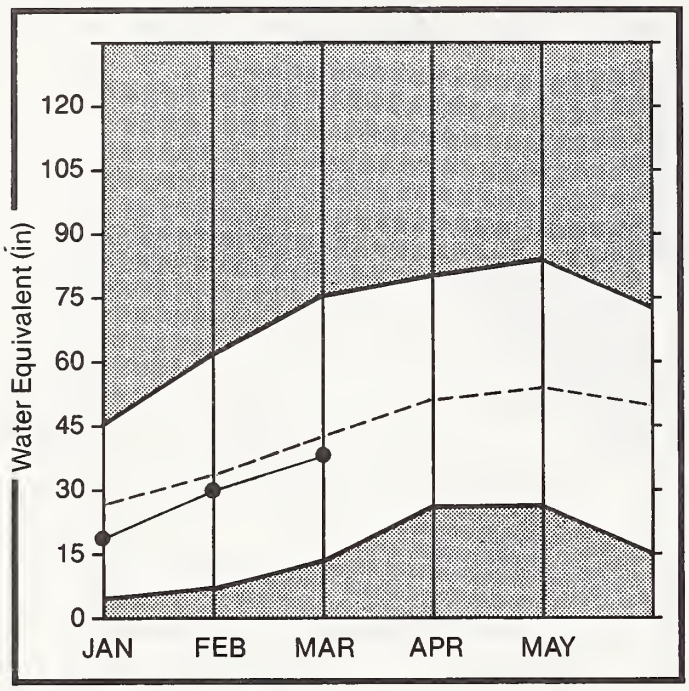
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
White River	3	112	92
Green River	6	173	89

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
2 - Corrected for upstream diversions or changes in reservoir storage.
The average is computed for the 1961-85 base period.

NORTH PUGET SOUND

Mountain snowpack* (inches)



*Based on selected stations

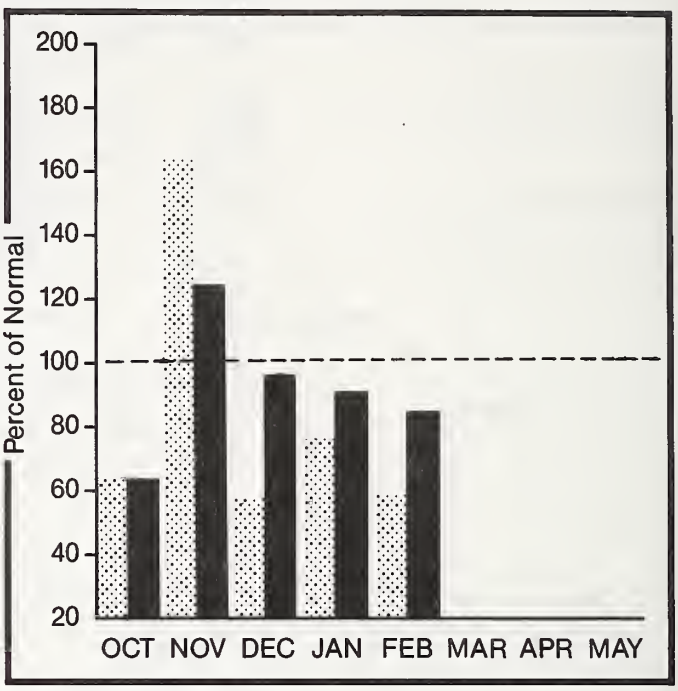
Maximum

Minimum

Average

Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation

Year to date precipitation

NORTH PUGET SOUND RIVER BASINS

WATER SUPPLY OUTLOOK:

March 1 snowcover for the North Puget Basin is 86% of normal with the Lyman Lake SNOTEL site having 46.8 inches of water content. Precipitation values for February were 58% of average with a water year to date at 85% of normal. Forecasted runoff for the Skagit River is 87% of normal. Reservoir storage is above average with Ross Lake storing 706,900 acre feet as of February 1; 50% of capacity. Temperatures were 3 degree above normal for February.

For more information contact your local Soil Conservation Service office.

NORTH PUGET SOUND RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
SKAGIT RIVER at Newhalem 2	APR-SEP	2264.0	1990.0	88	2465.0	109	1515.0	67
	APR-JUL	1891.0	1670.0	88	2067.0	109	1273.0	67
	APR-JUN	1442.0	1280.0	89	1583.0	110	977.0	68

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
ROSS	1404.1	706.9	869.2	307.6
DIABLO RESERVOIR	90.6	82.9	85.6	---
GORGE RESERVOIR	9.8	8.1	7.6	---

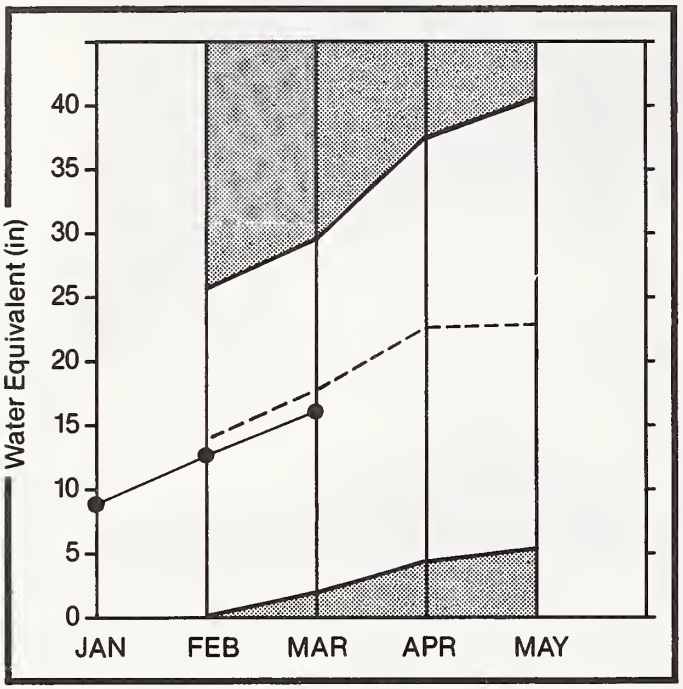
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	THIS YEAR AS % OF AVERAGE
Skagit River	14	98	84
Baker River	8	115	78
Cedar River	2	83	39
Snoqualmie River	1	128	68
Skykomish River	2	116	98

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
2 - Corrected for upstream diversions or changes in reservoir storage.
The average is computed for the 1961-85 base period.

OLYMPIC

Mountain snowpack* (inches)



*Based on selected stations

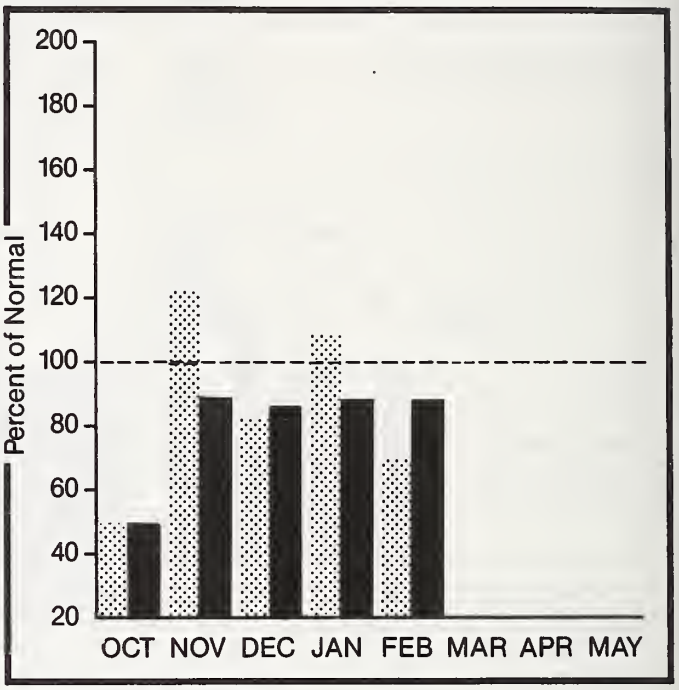
Maximum

Minimum

Average

Current

Precipitation* (percent of normal)



*Based on selected stations

Monthly precipitation

Year to date precipitation

OLYMPIC PENINSULA RIVER BASINS

WATER SUPPLY OUTLOOK:

Area streamflow was below normal during February. Forecasts of runoff for streams in the basin are 88% of average. Snow cover is 85% of normal based upon snow measurements at three sites in the Olympic Peninsula. February precipitation was 69% of average. The water year to date accumulation is 87% of normal. Snow water measured at the Cox Valley snow course was 32.0 inches with a depth of 84 inches. Temperatures in the basin were three degrees above average for February.

For more information contact your local Soil Conservation Service office.

OLYMPIC PENINSULA RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	25 YR. AVG. (1000AF)	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	REAS. MAX. (1000AF)	REAS. MAX. (% AVG.)	REAS. MIN. (1000AF)	REAS. MIN. (% AVG.)
DUNGENESS RIVER nr Sequim	APR-SEP	159.0	140.0	88	169.0	106	111.0	70
	APR-JUL	129.0	113.0	88	136.0	105	90.0	70
	APR-JUN	97.0	87.0	90	104.0	107	70.0	72
ELWHA RIVER nr Port Angeles	APR-SEP	553.0	495.0	90	595.0	108	395.0	71
	APR-JUL	454.0	405.0	89	487.0	107	323.0	71

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
Dungeness River	1	133	83
Morse Creek	1	119	97
Elwha River	1	164	87

1 - Reas. max. and reas. min. forecasts are for 5% and 95% exceedance levels and also (2) below.
2 - Corrected for upstream diversions or changes in reservoir storage.
The average is computed for the 1961-85 base period.

DATA CURRENT AS OF: 3/ 9/87 15:20:39

BASIN SUMMARY OF SNOW COURSE DATA

MARCH 1987

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
PEND OREILLE RIVER						
BENTON MEADOW	2370	2/25/87	10	2.8	6.8	6.0
BENTON SPRING	4920	2/25/87	39	13.3	12.1	17.2
BOYER MOUNTAIN	5250	2/26/87	51	16.4	19.1	22.3
BUNCHGRASS MDWPILLOW	5000	3/01/87	---	19.4	18.8	24.2
CHEWALAH	4930	2/26/87	38	12.2	9.9	13.9
HEART LAKE TRAIL	4800	2/28/87	46	13.7	18.7	19.5
HOOOOO BASIN	6050	2/28/87	90	31.8	40.1	43.9
HOOOOO CREEK	5900	2/28/87	79	27.4	33.1	40.7
LOOKOUT	5140	2/24/87	63	20.5	25.6	29.5
NELSON CAN.	3100	2/24/87	37	11.5	11.4	14.3
SCHWEITZER BOWL	4800	2/27/87	56	18.5	15.2	27.2
SCHWEITZER RIDGE	6200	2/27/87	90	34.7	29.7	40.1
COLVILLE RIVER						
BAIRD	3220	2/25/87	20	6.5	6.7	6.9
CHEWALAH	4930	2/26/87	38	12.2	9.9	13.9
TOGO	3370	2/26/87	26	6.5	10.3	9.6
KETTLE RIVER						
BARNES CREEK CAN.	5300	2/23/87	41	10.2	13.6	17.2
BIG WHITE MTN CAN.	5510	2/28/87	39	12.2	14.6	16.3
BUTTE CREEK	4070	2/26/87	21	5.8	7.3	8.6
CARMI CAN.	4100	2/28/87	18	4.3	5.6	6.1
FARRON CAN.	4000	2/25/87	31	8.8	11.4	12.4
GOAT CREEK	3600	2/26/87	17	5.2	6.4	6.6
MONASHEE PASS CAN.	4500	2/23/87	28	6.2	8.3	12.2
SUMMIT G.S.	4600	2/26/87	24	6.5	5.1	7.3
TRAPPING CK LOW CAN.	3050	2/25/87	14	3.9	5.0	5.1
TRAPPING CK UP CAN.	4460	2/28/87	23	6.3	6.9	9.1
OMAK LAKE, TWIN LAKES						
MOUNT TOLMAN	2000	2/23/87	8	2.4	4.4	--
TWIN LAKES	2700	2/25/87	21	6.1	7.4	--
SPOKANE RIVER						
ABOVE BURKE	4100	2/24/87	42	10.4	14.9	19.0
FOURTH OF JULY SUM	3200	2/24/87	30	6.2	8.8	8.2
LOOKOUT	5140	2/24/87	63	20.5	25.6	29.5
LOST LAKE	6110	2/25/87	97	33.1	40.9	48.9
MOSQUITO RIDGE	5200	2/26/87	72	22.9	25.3	33.7
SHERWIN	3200	2/26/87	26	8.5	10.8	12.3
SUNSET	5540	2/26/87	62	19.4	23.7	28.1
NEWMAN LAKE						
RAGGED RIDGE	3330	2/28/87	21	5.6	4.3	--
OKANOGAN RIVER						
ABERDEEN LAKE CAN.	4300	2/27/87	17	3.5	4.5	5.9
BLACKWALL PEAK CAN.	6370	2/24/87	73	26.1	25.9	29.6
BRENDA MINE CAN.	4800	2/26/87	35	11.4	10.8	11.9
BROOKMERE CAN.	3200	2/28/87	33	9.2	7.2	8.0
ENDERBY CAN.	6200	2/26/87	82	31.4	31.9	32.6
ESPERON CK. LO CAN.	4400	2/28/87	28	7.5	8.0	10.6
ESPERON CK. MID CAN.	4690	2/28/87	34	9.1	10.2	13.2
ESPERON CK. UP CAN.	5410	2/28/87	36	10.2	10.1	15.7
GREYBACK RES CAN.	5120	2/23/87	26	5.1	7.0	7.8
HAMILTON HILL CAN.	4890	2/24/87	37	8.8	10.6	13.7
HARTS PASS PILLOW	6500	3/01/87	---	35.7S	37.5	47.1
ISINTOK LAKE CAN.	5500	2/28/87	21	4.2	5.7	6.8
LOST HORSE MTN CAN.	6300	3/02/87	25	5.6	7.7	8.1
MCCULLOCH CAN.	4200	2/26/87	18	4.2	4.6	6.4
MISSEZULA MTN CAN.	5090	2/25/87	33	8.9	9.4	9.0
MISSION CREEK CAN.	5800	2/27/87	37	10.6	15.0	17.2
MONASHEE PASS CAN.	4500	2/23/87	28	6.2	8.3	12.2
MT. KOBAU CAN.	5900	2/28/87	30	7.8	8.6	10.7
MUTTON CREEK #1	5700	2/26/87	36	9.6	6.2	11.9
OYAMA LAKE CAN.	4400	2/27/87	19	4.4	4.7	6.1
POSTILL LAKE CAN.	4500	2/28/87	22	3.8	5.2	7.4
RUSTY CREEK	4000	2/26/87	22	6.0	4.4	6.5
SALMON MDWS PILLOW	4500	3/01/87	---	7.8S	7.2	12.6
SILVER STAR MTN CAN.	6000	2/28/87	59	20.8	23.2	24.3
SUMMERLAND RES CAN.	4200	2/28/87	25	7.0	8.5	8.7
SUNDAY SUMMIT CAN.	4300	2/26/87	24	5.6	3.9	5.5
TROUT CREEK CAN.	4690	2/25/87	22	5.4	6.8	6.7
VASEUX CREEK CAN.	4600	2/23/87	18	3.1	4.6	5.9
WHITE ROCKS MTN CAN.	6000	2/27/87	50	16.6	15.0	20.0
METHOW RIVER						
HARTS PASS PILLOW	6500	3/01/87	---	35.7S	37.5	47.1
MUTTON CREEK #1	5700	2/26/87	36	9.6	6.2	11.9
RUSTY CREEK	4000	2/26/87	22	6.0	4.4	6.5
SALMON MDWS PILLOW	4500	3/01/87	---	7.8S	7.2	12.6
CHELAN LAKE BASIN						
CLOUDY PASS AM	6500	2/24/87	89	31.2	34.0	33.5
LYMAN LAKE PILLOW	5900	3/01/87	---	48.2S	44.3	55.9
LITTLE MDWS AM	5280	2/24/87	109	38.2	28.1	37.5
MIRROR LAKE PILLOW	5600	3/01/87	---	30.5S	29.9	27.9
PARK CK RIDGE PILLOW	4600	3/01/87	---	38.7E	41.4	39.9
RAINY PASS PILLOW	4780	3/01/87	---	30.3E	32.1	41.7
ENTIAT RIVER						
BRIEF	1600	2/27/87	17	6.7	8.4	6.9
20A36 IS NOT ON FILE						
POPE RIDGE	3540	2/27/87	50	17.0	16.7	17.1
20A32 IS NOT ON FILE						
20A37 IS NOT ON FILE						
20A35 IS NOT ON FILE						
20B21 IS NOT ON FILE						
WENATCHEE RIVER						
BERNE-MILL CREEK	3170	2/27/87	63	22.9	22.3	24.8
ELEWETT PASS#2PILLOW	4270	3/01/87	---	15.9S	16.6	22.2
CHIWAUKUM G.S.	2500	2/27/87	27	10.2	10.7	11.0
LYMAN LAKE PILLOW	5900	3/01/87	---	48.2S	44.3	55.9
MERRITT	2140	2/27/87	33	13.6	14.2	14.7
MISSION RIDGE	5000	2/25/87	41	11.1	15.6	--
STEVENS PASS PILLOW	4070	3/01/87	---	40.4S	33.7	37.8
STEVENS PASS SNO SD	3700	2/27/87	78	27.6	24.7	31.9

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
COLOCKUM CREEK						
TROUGH #2 PILLOW	5310	3/01/87	---	7.4E	7.2	11.0
SQUILCHUCK CREEK						
BEEHIVE SPRINGS	4400	2/25/87	25	6.5	9.0	7.8
STEMILT CREEK						
STEMILT SLIDE	5000	2/25/87	33	9.7	13.1	13.1
UPPER WHEELER	4400	2/25/87	28	8.3	11.6	9.6
YAKIMA RIVER						
AHTANUM R.S.	3100	2/25/87	24	7.0	9.5	6.9
BIG BOULDER CREEK	3200	2/24/87	51	15.9	--	18.1
ELEWETT PASS#2PILLOW	4270	3/01/87	---	15.9S	16.6	22.2
BUMPING LAKE	3450	2/26/87	38	12.5	16.0	17.2
BUMPING LAKE (NEW)	3400	2/26/87	44	14.1	18.5	18.1
CAYUSE PASS	5300	3/01/87	---	56.7E	49.1	67.0
COLOCKUM PASS	5370	2/25/87	39	11.0	21.4	14.7
CORRAL PASS PILLOW	6000	3/01/87	---	32.1S	28.7	32.1
FISH LAKE PILLOW	3370	3/01/87	---	25.3E	24.7	32.8
GREEN LAKE PILLOW	6000	3/01/87	---	17.3E	16.4	18.1
GROUSE CAMP PILLOW	5380	3/01/87	---	18.4S	18.7	16.6
LAKE CLE ELUM	2200	2/24/87	20	5.0	10.5	8.1
MORSE LAKE PILLOW	5400	3/01/87	---	42.3E	39.3	44.0
OLALLIE MEADOWS	3630	2/24/87	70	26.9	21.0	39.3
STAMPEDE PASS PILLOW	3860	3/01/87	---	37.7E	29.4	47.7
SASSE RIDGE PILLOW	4200	3/01/87	---	25.9S	15.2	30.7
TUNNEL AVENUE	2450	2/23/87	43	15.7	16.2	19.8
WHITE PASS ES PILLOW	4500	3/01/87	---	16.1S	19.4	22.0
AHTANUM CREEK						
AHTANUM R.S.	3100	2/25/87	24	7.0	9.5	6.9
GREEN LAKE PILLOW	6000	3/01/87	---	17.3E	16.4	18.1
MILL CREEK						
HIGH RIDGE PILLOW	4980	3/01/87	---	19.0S	16.4	26.1
TOUCHET #2 PILLOW	5530	3/01/87	---	26.4	24.4	--
LEWIS AND COWLITZ RIVERS						
CAYUSE PASS	5300	3/01/87	---	56.7E	49.1	67.0
WHITE PASS ES PILLOW	4500	3/01/87	---	16.1S	19.4	22.0
WHITE RIVER						
CAYUSE PASS	5300	3/01/87	---	56.7E	49.1	67.0
CORRAL PASS	6000	2/24/87	86	28.9	--	34.1
CORRAL PASS PILLOW	6000	3/01/87	---	32.1S	28.7	32.1
MORSE LAKE PILLOW	5400	3/01/87	---	42.3E	39.3	44.0
GREEN RIVER						
COUGAR MTN. PILLOW	3200	3/01/87	---	18.4S	12.4	24.7
GRASS MOUNTAIN #2	2900	3/06/87	20	7.8	--	14.6
LESTER CREEK	3100	3/06/87	49	16.4	.0	19.1
LYNN LAKE	4000	3/06/87	38	15.3	10.5	22.8
SAWMILL RIDGE	4700	3/06/87	65	25.0	16.4	30.5
STAMPEDE PASS PILLOW	3860	3/01/87	---	37.7E	29.4	47.7
TWIN CAMP	4100	3/06/87	55	34.3	16.1	21.1
CEDAR RIVER						
CITY CABIN	2390	2/24/87	0	.0	5.0	13.1
MT. GARDNER	3300	2/24/87	26	10.8	8.0	14.8
SNOQUALMIE RIVER						
OLALLIE MEADOWS	3630	2/24/87	70	26.9	21.0	39.3
SKYKOMISH RIVER						
STEVENS PASS PILLOW	4070	3/01/87	---	40.4S	33.7	37.8
STEVENS PASS SNO SD	3700	2/27/87	78	27.6	24.7	31.9
SKAGIT RIVER						
BEAVER CREEK TRAIL	2200	2/27/87	35	12.1	13.3	13.0
BEAVER PASS	3680	2/26/87	62	25.1	24.4	25.5
BROWN TOP AM	6000	2/26/87	130	48.6	54.2	52.9
DEVILS PARK	5900	2/26/87	90	31.0	37.6	37.8
FREEZEOUT CK. TRAIL	3500	2/27/87	39	11.3	10.2	11.3
GRANITE CREEK	3500	2/27/87	48	14.2	12.6	16.3
HARTS PASS PILLOW	6500	3/01/87	---	35.7S	37.5	47.1
KLESILKWA CAN.	3710	2/23/87	29	8.8	7.3	11.4
LIGHTNING LAKE CAN.	4000	2/23/87	37	10.9	8.7	11.9
LYMAN LAKE PILLOW	5900	3/01/87	---	48.2S	44.3	55.9
MEADOWS CABIN	1900	2/26/87	6	1.4	4.4	6.4
NEW HOZOMEEN LAKE	2800	2/26/87	33	7.8	9.8	11.7
RAINY PASS PILLOW	4780	3/01/87	---	30.3E	32.1	41.7
THUNDER BASIN	2400	2/26/87	53	18.0	14.7	18.9
BAKER RIVER						
DOCK BUTTE AM	3800	2/23/87	98	42.1	34.6	57.7
EASY PASS AM	5200	2/23/87	140	58.8	49.5	65.3
JASPER PASS AM	5400	2/23/87	158	63.2	56.8	77.1
MARTEN LAKE AM	3600	2/23/87	124	54.6	43.0	65.4
MT. BLUM AM	5800	2/23/87	112	44.8	43.7	57.3
ROCKY CREEK AM	2100	2/23/87	34	13.6	17.6	26.1
SCHREIBERS MDW AM	3400	2/23/87	92	40.5	30.8	49.7
SF THUNDER CK AM	2200	2/23/87	0	.0	.0	9.0
DUNGENESS RIVER						
DEER PARK	5200	2/24/87	47	14.8	11.1	17.9
MORSE CREEK						
COX VALLEY	4500	2/27/87	84	32.0	26.8	32.9
ELWHA RIVER						
HURRICANE	4500	/32/87	48	15.6	9.5	17.9

RANCHING TIPS FOR WATER-SHORT YEARS

Forage production on range and dry pasture depends entirely on natural moisture. While overgrazing does damage to perennial plants during a season of normal moisture, it is more severe during a drought year. It reduces plant vigor, stops root and leaf growth, reduces ground cover, and invites accelerated erosion. Once erosion begins, it gets worse each year, further reducing plant vigor and forage production. This process is difficult to reverse.

Rather than risk permanent damage to grazing resources start planning a strategy early. For example:

- reduce livestock numbers to balance with forage supply
- cull herds more than normal
- sell calves and lambs early

determine forage needs and buy needed supplements early

- grow small grains or sorghums for hay or pasture (these use less water than conventional forage crops)
- defer planting perennial pasture, hay or range seedings until a year with more favorable water outlook
- keep spring developments, stock tanks, float valves and pipeline in good working order so water is not wasted
- use evaporation retardant on ponds and tanks
- prepare for hauling stock water
- give spring development high priority (even mediocre springs will be helpful)
- check with local SCS and ASCS offices to learn if cost-share programs are available to help with spring developments or other water conservation practices
- don't overgraze or otherwise disturb streambank vegetation (it will help prevent erosion, reduce sediment, and provide food and cover for wildlife)

Remember, if a unit must be abused, well-established seedings can tolerate overgrazing better than native range.

Wildlife will suffer during a drought as much or more than domestic livestock. The wildlife that share your land is a valuable natural resource.

To help wildlife:

- include features at stock water developments which will allow small animals and birds safe access to water (these are usually not expensive and are easily installed)
- fence ponds and springs and install collector pipes to deliver water to a tank or trough. This will improve water quality and quantity for livestock, as well as provide lush vegetation for small animals and birds.

Other places for information or assistance:

- check with local ASCS office for possible special practices or cost-sharing that might assist with irrigation on your farm or ranch this year.

- maintain contact with Farmers Home Administration for special local programs available.

- maintain contact with the local Cooperative Extension Service office for agricultural and marketing conditions.

If you belong to an irrigation district, contact irrigation officials throughout the season to learn about current water availability and water supply forecasts.

For more information concerning your crop, and soil and water conditions, contact the local Conservation District Office.

The Following Organizations Cooperate With The Soil Conservation Service In Snow Survey Work

Canada:

Ministry of the Environment, Water
Investigations Branch, Victoria, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
  Corps of Engineers
U.S. Department of Agriculture
  Forest Service
U.S. Department of Commerce
  NOAA, National Weather Service
U.S. Department of the Interior
  Bonneville Power Administration
  Bureau of Reclamation
  Geological Survey
  National Park Service
  Bureau of Indian Affairs

Local:

City of Tacoma
City of Seattle
Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company
Snohomish County P.U.D.
Colville Confederated Tribes

Private:

Okanogan Irrigation District
Wenatchee Heights Irrigation District
Newman Lake Homeowners Association

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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